## REMARKS

This is in response to the Office Action that was mailed on June 1, 2004. Claim 1 is amended to incorporate relative amounts of components, based upon recitations in original claim 2. Claim 2 is amended accordingly. Claim 1 is also amended based upon disclosure appearing in paragraph [0023] of the specification. New claims 12 and 13 are presented, based upon disclosure appearing in paragraphs [0023] and [0033] of the specification. New claims 14-18 are presented based upon the Examples, with new claim 14 being based on all of the Examples together and new claims 15-18 being based upon examples 1, 45, 89, and 32, respectively. New claims 19-24 are based upon original claims 1, 2, and 9-11 and new claim 14, amended based upon disclosure appearing in paragraph [0023]. Claims 1-24 are now pending in the application.

THE INVENTION. The present invention provides gas generating compositions that produce reduced amounts of toxic carbon monoxide and nitrogen oxides and that have a low combustion temperature. Specification, paragraph [0011]. A key feature of the presently claimed compositions is their aluminum hydroxide component. The aluminum hydroxide used here is of the same type as that used for condensing floating matter in public water supplies and in household detergents. Specification, paragraph [0020]. In accordance with the present invention, the aluminum hydroxide has

an average particle size within a specified range to ensure overall dispersibility of the compositions of the invention. Specification, paragraph [0022].

As demonstrated in the 'Declaration under 37 CFR §1.132' of Jianzhou WU submitted herewith, aluminum hydroxide particle size has a profound effect on the performance of gas generating compositions that incorporate aluminum hydroxide. Moreover, only some, but not all, aluminum hydroxide particle sizes provide useful gas generating compositions. The present claims all require aluminum hydroxide particle sizes in the range 2 to 30 μm. As demonstrated in the WU Declaration, smaller aluminum hydroxide particles provide gas generating compositions that generate unacceptably high levels of mists upon ignition, while larger aluminum hydroxide particles provide gas generating compositions that fail to ignite. None of the references of record teaches or suggests that aluminum hydroxide particle size should be adjusted to control mist generation or ignition properties. It goes without saying that none of the references of record teaches or suggests the aluminum hydroxide particle size range recited in the present claims!

Claims 1-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 6,039,820 (Hinshaw). The rejection is respectfully traversed.

At most, the Hinshaw reference is suggestive of the general concept of incorporating aluminum hydroxide into compositions such as those claimed. Hinshaw provides absolutely no guidance as to how much aluminum hydroxide could be incorporated into such compositions, let alone any guidance as to the form of aluminum hydroxide that should be incorporated into such compositions. Clearly, Hinshaw fails to teach or suggest a composition comprising at least "0.1 to 20% by mass of aluminum hydroxide having an average particle size of 2 to 30 μm", as required by the present claims.

The Examiner has cited the *Boesch* and *Aller* decisions in support of her rejection. Those decisions are inapposite to the present situation. In *Aller*, the court stated that:

> The process of appellants is identical with that of the prior art, except that appellants' claims specify lower temperatures and higher sulphuric acid concentrations than ***are shown*** in the reference. … The main question involved in this appeal is whether the changes in temperature [shown in the reference] and in acid concentration [shown in the reference] amount to invention, or whether such changes would have been obvious to one skilled in the art.

105 USPQ at 234 (emphasis supplied). Similarly, in *Boesch*, the court noted that "both Pohlman et al. and Lamb ***disclose*** alloys having ***compositional limits*** overlapping those of the claimed alloys". 205 USPQ 218 (emphasis supplied). In the present situation, in contrast, the Hinshaw reference fails to disclose actual compositions having ***any*** amount of aluminum hydroxide. It

goes without saying that Hinshaw does not disclose what particle size the aluminum hydroxide should have.

A more relevant decision is *In re Kotzab*, 55 USPQ2d 1313 (Fed. Cir. 2000), where the court indicated that "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed". 55 UPSQ2d 1317. In Kotzab, as in the present case, claims were rejected over different items selected from within a single reference. The CAFC noted that the PTO had fallen into "the hindsight trap" and located within the reference statements that conjecturally could be put together to suggest the claimed invention. But, as the Court pointed out, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. The Court held that the PTO had not made out a proper *prima facie* case of obviousness. Similarly, in the present situation, it seems clear that the Examiner has simply taken Applicant's claims and then looked through the reference to find disclosure that could be related to individual recitations within the claims. Even then, the Examiner is forced to concede that there is no "example of the exact mixture claimed or the precise amounts of the additives". Office Action, page 2.

It is respectfully submitted that the claims in their present form do not include subject matter that is *prima facie* obvious from the Hinshaw disclosure.

Claims 1-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over US 6,517,647 B1 (Yamato). The rejection is respectfully traversed.

In the Yamato reference, disclosure relating to aluminum hydroxide may be found in columns 4-5. That disclosure is as follows:

> As the additives used in this invention, one or more types selected from the group consisting of carboxymethyl cellulose (CMC), carboxymethyl cellulose sodium salt (CMCNa), … carboxymethylethyl cellulose (CMEC), microcrystalline cellulose, polyacrylamide, … polyvinyl alcohol, acrylic rubber, guar gum, starch, silicone, molybdenum disulfide, acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitride, silicon carbide, hydrotalcite, mica, metal oxide, metal hydroxide, metal carbonate, basic metal carbonate and molybdate can be proposed. As the metal hydroxide, one or more types selected from the group consisting of cobalt hydroxide and aluminum hydroxide are proposed. As the metal carbonate and the basic metal carbonate, one or more types selected from calcium carbonate, … basic bismuth carbonate and basic magnesium carbonate are proposed. As the molybdate, one or more types selected from cobalt molybdate and ammonium molybdate are proposed.

Column 4, line 47 - column 5, line 8. Thus in Yamamoto, aluminum hydroxide - which is a key feature of the present invention - is "buried" in a generic disclosure.

The Yamamoto reference does not teach the form of aluminum hydroxide that should be incorporated into compositions such as those claimed herein. Clearly, Yamamoto fails to teach or suggest a composition comprising at least "0.1 to 20% by mass of aluminum hydroxide having an average particle size of 2 to 30 μm", as required by the present claims.

The Examiner has cited the *Boesch* and *Aller* decisions in support of this ground of rejection. As discussed above, those decisions do not apply to the present situation. In *Aller*, the court stated that:

> The process of appellants is identical with that of the prior art, except that appellants' claims specify lower temperatures and higher sulphuric acid concentrations than ***are shown*** in the reference. … The main question involved in this appeal is whether the changes in temperature [shown in the reference] and in acid concentration [shown in the reference] amount to invention, or whether such changes would have been obvious to one skilled in the art.

105 USPQ at 234 (emphasis supplied). Similarly, in *Boesch*, the court noted that "both Pohlman et al. and Lamb ***disclose*** alloys having ***compositional limits*** overlapping those of the claimed alloys". 205 USPQ 218 (emphasis supplied). In the present situation, in contrast, the Hinshaw reference fails to disclose actual compositions having ***any*** amount of aluminum hydroxide. It goes without saying that Hinshaw does not disclose what particle size the aluminum hydroxide should have.

Applicant contends that a more relevant decision is *In re Kotzab*, 55 USPQ2d 1313 (Fed. Cir. 2000), where the court indicated that "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed". 55 UPSQ2d 1317.

In Kotzab, as in the present case, claims were rejected over different items selected from within a single reference. The CAFC noted that the PTO had fallen into "the hindsight trap" and located within the reference statements that conjecturally could be put together to suggest the claimed invention. But, as the Court pointed out, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. The Court held that the PTO had not made out a proper *prima facie* case of obviousness. Similarly, in the present situation, the Examiner has used Applicant's claims as a key to find disclosure that could be related to individual recitations within the claims. Even doing this, the Examiner concedes that there is no "example of the exact mixture claimed or the precise amounts of the additives". Office Action, page 3.

It is respectfully submitted that the claims in their present form do not include subject matter that is *prima facie* obvious from the Yamato disclosure.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant respectfully petitions for a three (3) month extension of time for filing a reply in connection with the present application, and the required fee of $980.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Rick Gallagher (Reg. No. 28,781) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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RG

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Attachment:
DECLARATION UNDER 37 CFR §1.132.